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PAGE 01 STATE 052834

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TO USMISSION IAEA VIENNA

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FOLLOWING REPEAT BOMBAY 0505 ACTION SECSTATE INFO NEW DELHI
27 FEB

QUOTE

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E.O. 11652 N/A (DECLASSIFY UPON RECEIPT)

TAGS: TECH, ENRG, IN

SUBJ: ALLEGED RADIOACTIVITY FROM TARAPUR POWER STATION

REF: STATE 36121

1. CHAIRMAN SETHNA HAS SENT LONG TECHNICAL REPLY WITH TWO ANNEXES IN RESPONSE TO QUESTIONS RAISED PARAS 4 AND 5 REFTEL. THESE WERE AIRPOUCHED TO CHAIRMAN ANDERS, NRC, YESTERDAY AND SHOULD ARRIVE WASHINGTON DURING FIRST FEW DAYS OF MARCH. CHAIRMAN SETHNA AUTHORIZES RELEASE OF THIS INFORMATION TO THE US SENATE BUT STRESSES THAT HE PREFERS THAT DATA BE GIVEN TO THE SENATE

IN THE WAY THAT HE HAS PRESENTED IT. CONGEN POINTED OUT TO HIM AND TO J.C. SHAH WHO HAS ASSISTED IN DEVELOPING THIS DATA THAT THEY ARE SO TECHNICAL THAT LAY READERS INCLUDING SENATORS PROBABLY WILL NOT BE ABLE TO UNDERSTAND THEIR SIGNIFICANCE. SETHNA SAYS HE IS CONFIDENT NRC SCIENTISTS WILL UNDERSTAND HIS POINTS AND HE
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PAGE 02 STATE 052834

IS PREPARED TO PROVIDE CLARIFICATIONS PROMPTLY BY CABLE IF REQUIRED.

2. ORALLY HE MADE FOLLOWING COMMENTS TO ME ON SERIATIM QUESTIONS REFTEL.

A. RE PARA 4 REFTEL HE CONFIRMS NRC ASSUMPTION THAT SHAH'S

STATEMENT REFERS TO ABRAHAM'S PAPER, BUT BOTH HE AND SHAH SAY THAT NRC HAS CORRECTLY INTERPRETED ABRAHAM DATA. OTHERS HAVE "MISUSED DATA AND HAD A WRONG VIEW OF PERMISSIBLE RADIOACTIVITY LIMITS."

B. SETHNA HAS PROVIDED ENTIRELY NEW SET OF DATA GIVEN IN DIFFERENT MEASUREMENTS REGARDING EXPOSURE TO RADIOATION OF MOST EXPOSED GROUPS FROM THOSE TRANSMITTED DELHI 1777. CONGEN HAS MADE ARRANGEMENTS WITH J.C. SHAH TO RECONCILE THESE DIFFERENCES ON MARCH 1. APPARENTLY PART OF PROBLEM STEMS FROM SETHNA'S INSISTANCE THAT AUTHORITY FOR RADIATION MEASUREMENTS IS RESPONSIBILITY OF HEALTH PHYSICS DIVISION OF BARC AND NOT OF TAPS. THERE IS A JURIDICAL DISPUTE WITHIN IAEC OVER WHICH SET OF FIGURES ARE MOST APPROPRIATE. SETHNA PREFERS TO USE THOSE SUBMITTED IN HIS LETTER WHICH CONGEN HAS AIRPOUCHED TO ANDERS ALTHOUGH HE DOES NOT DENY THE ACCURACY OF THOSE SHAH GAVE CONGEN AND WHICH WERE TRANSMITTED IN DELHI 1777. (IN FACT, AS NOTED BELOW, HE AUTHORIZES USE OF DATA SHAH PROVIDED.)

C. SETHNA STATES THAT "THE AVERAGE EXPOSURE LEVEL REMAINS STEADY. THE EXPOSURE DURING THE YEARS 1970 TO 1974 HAD ALREADY BEEN COMMUNICATED TO NRC (LETTER NO.:3/APA/13/75 DATED OCTOBER 4, 1975 FROM J.C. SHAH TO DR. J LAFLEUR). THE AVERAGE EXPOSURE FOR 1975 IS 1.61 R.

D. FUEL PERFORMANCE IN LAST THREE YEARS. SETHNA SAYS THAT "IN HIS EXPERIENCE OVER LAST THREE YEARS FUEL PERFORMANCE CANNOT BE SAID TO HAVE IMPROVED SIGNIFICANTLY. HE SAYS THE INITIAL FUEL OBTAINED BEFORE STATION START-UP HAS PERFORMED POORLY AND THE SUBSEQUENT RELOADS OBTAINED PRIOR TO 1973 HAVE NOT BEEN MUCH BETTER. THE FIRST RELOAD OF FULLY INDIGENOUS FABRICATED FUEL WAS INSERTED IN 1975. THE EXPERIENCE THEREAFTER IS INSUFFICIENT TO JUDGE ITS PERFORMANCE. WHAT HAS IMPROVED DURING THE LAST THREE YEARS ARE THE OPERATION PROCEDURES, SPECIFICALLY PRE-CONDITIONING OF FUEL, WHICH REDUCE THE LIKELIHOOD OF FUEL FAILURES." COMMENT: THIS IS ESSENTIALLY WHAT J.C. SHAH TOLD CONGEN EXCEPT THAT SHAH STRESSED THAT FUEL ITSELF HAD BEEN IMPROVED THROUGH REDUCTION IN HYDRATION. CONGEN DOES NOT LIMITED OFFICIAL USE

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PAGE 03 STATE 052834

BELIEVE THERE IS CONFLICT IN SUBSTANCE HERE BUT WILL ATTEMPT TO CLARIFY ISSUE WITH SHAH ON MARCH 1.

E. 1) TRENDS IN RADIOACTIVITY BUILD-UP AND EFFLUENT EMISSION LEVELS. REGARDING CURRENT TRENDS IN RADIOACTIVITY BUILD-UP IN THE REACTOR LOOP, THE TOTAL ACTIVITY (2 HOURS AFTER SAMPLING) HAS BEEN GENERALLY BELOW 2 UC/ML SINCE MID 1971. CURRENTLY, IT IS 1.3 UC/ML IN BOTH THE UNITS AND IS EXPECTED TO COME DOWN CONSIDERABLY AFTER THE RESTORATION OF THE CLEAN UP

SYSTEM CAPACITY.

E. 2) REGARDING EFFLUENT EMISSION LEVELS, THE AVERAGE STACK GAS RELEASE HAS FALLEN FROM 80.2 MC/SEC IN 1973 TO 74 MC/SEC IN 1974 AND 67.4 MC/SEC IN 1975 (GROSS ACTIVITIES). THE LIQUID ACTIVITY DISCHARGE INCREASED FROM 50 CURIES IN 1973 TO 63.87 CURIES IN 1974 AND HAS COME DOWN TO 61.18 CURIES IN 1975 (NORMALISED ACTIVITIES).

F. THERE HAS NEVER BEEN ANY BAN ON FISH CONSUMPTION OR UTILIZATION OF THE COASTAL ENVIRONMENTS BY THE PUBLIC SINCE THE START UP OF THE PLANT. RE PARA 6 REFTEL SETHNA LETTER STATES IT IS CONFIRMED THAT THE DATA PERTAINING TO THE RADIOACTIVITY EMISSION SHAH PREVIOUSLY GAVE ME CAN BE USED. SPECIFICALLY, "IS THE CONCLUSION THAT THE MOST EXPOSED GROUP RECEIVED A PLANT DOSE OF 30 MILLIREMS (INCLUDING 12.5 MILLIREMS FROM LAND AND WATER SOURCES, AND 17.5 MILLIREMS FROM AIR EMISSIONS) WHICH REPRESENTS ONLY 1/2 OF NATURAL BACKGROUND RADIOACTIVITY LEVEL OF 60 MILLIREMS PER ANNUM IN TARAPUR AREA PRIOR TO PLANT SETUP."

G. SETHNA CONFIRMS THAT THE ACTIVITY LEVELS IN THE PUBLIC ENVIRONMENT HAVE BEEN CONSISTENTLY WELL WITHIN THE PERMISSIBLE LIMITS AND THAT THERE IS AN ON-SITE RADIATION MONITORING LABORATORY FOR THE PURPOSE. HOWEVER, HE NOTES THAT THIS LABORATORY IS PART OF THE HEALTH PHYSICS DIVISION OF BARC RATHER THAN THAT PART OF TAPS AND AS SUCH REPORTS DIRECTLY TO HIM RATHER THAN TO SHAH. COMMENT: SETHNA MADE THIS POINT TO ME AT LEAST SEVEN TIMES, SO PLEASE MAKE THE DISTINCTION IN ANY PUBLIC RELEASE.

H. IMPROVEMENT IN TARAPUR OPERATIONS. THE STATEMENT OF IMPROVEMENT IN TARAPUR OPERATIONS IN THE CONTEXT OF THE "MOTHER JONES" ARTICLE IS BASED ON THE FOLLOWING:

1) THERE HAS BEEN A CONSIDERABLE REDUCTION IN STEAM AND WATER LEAKS WITHIN THE STATION. THEY DRYWELL LEAKS WHICH HAD REACHED AS MUCH AS 75,000 LITRES PER DAY PRIOR TO 1973 HAVE BEEN BROUGHT DOWN TO LESS THAN 15,000 LITRES PER DAY FOR EACH UNIT. LIMITED OFFICIAL USE

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PAGE 04 STATE 052834

2) CONDENSER TUBE LEAKS WHICH HAD INCREASED SIGNIFICANTLY DURING 1973 AND EARLY 1974, HAVE BEEN REDUCED SUBSTANTIALLY FOLLOWING RECTIFICATION OF DEFECTS WHICH HAD APPARENTLY EXISTED SINCE THE INSTALLATION STAGE. SETHNA CITES FOUR OTHER LESS SIGNIFICANT DESIGN CHANGES WHICH ALSO SUPPORT HIS CONTENTION OF IMPROVEMENT IN TARAPUR OPERATIONS.

I. THE ON-LINE AVAILABILITY OF TAPS HAS IMPROVED SIGNIFICANTLY, PARTICULARLY SINCE MID-1974. THE OUTAGES HAVE ALSO REDUCED SUBSTANTIALLY. THERE WERE ONLY TWO REACTOR SCRAMS FOR BOTH UNITS IN 1975 (ONE DURING A START-UP AND THE OTHER SPURIOUSLY).

J. PLANT SHUTDOWNS. THE LEVEL OF OUTPUT OF BOTH TARAPUR UNITS HAS BEEN REDUCED TO BETWEEN 60 AND 75 PERCENT OF RATED FOR SUSTAINED PERIODS WHENEVER WATER OR OFF-GAS ACTIVITY SHOWED UNDERSIABLE INCREASE OR WHEN ASPECTS SUCH AS SSG LEAKS COULD HAVE

IMPOSED HEAVY BURDEN ON THE RADWASTE SYSTEM. SETHNA NOTES THAT BOTH UNITS HAVE BEEN SHUTDOWN WELL AHEAD OF NORMAL SCHEDULES (1973 AND 1975) FOR REFUELLING WHEN FUEL FAILURES HAD INCREASED OFF-GAS OR REACTOR WATER ACTIVITY LEVELS BEYOND THE INTERNAL DISCIPLINE LEVEL WHICH IS WELL BELOW THE TECHNICAL SPECIFICATION LIMITS.

3. CONGEN PHOTOSTATING SETHNA'S FULL REPLY AND WILL TRANSMIT COPIES WHICH ALREADY SENT ANDERS WITHIN NEXT FEW DAYS TO EMBASSY NEW DELHI AND NEA/INS. COURTNEY UNQUOTE KISSINGER

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